

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (CURRENTLY AMENDED) An image forming apparatus, comprising:
an engine mechanism to perform a printing operation with respect to print data;
a video unit to convert the print data into image data readable by the engine mechanism;
an engine control unit to control the engine mechanism to perform the printing operation with the image data in accordance with control by the video unit;
a main control unit integrated into a single chip with a processor to transmit a print start command to the engine control unit; and
a system bus to directly connect the engine control unit with the processor,
wherein the video unit comprises ~~a~~the processor, and the video unit and the engine control unit are driven by the processor.
2. (CANCELLED)
3. (PREVIOUSLY PRESENTED) The image forming apparatus of claim 1, wherein the system bus comprises at least one of a bi-directional data bus, an address bus and a control bus.
4. (PREVIOUSLY PRESENTED) The image forming apparatus of claim 1, wherein the engine control unit is an application specific integrated circuit (ASIC), and comprises a memory to store state information about the engine mechanism.
5. (ORIGINAL) The image forming apparatus of claim 4, wherein the processor reads the state information stored in the memory to check a state of the engine mechanism, and transmits the image data to the engine control unit to perform the printing operation.
6. (CURRENTLY AMENDED) An image forming apparatus, comprising:

an engine mechanism to perform a printing operation with respect to print data;
a video unit to convert the print data into image data readable by the engine mechanism;
an engine control unit to control the engine mechanism to perform the printing operation with respect to the image data in accordance with control by the video unit;
a bi-directional parallel bus to directly connect the video unit and the engine control unit;
and
a single processor to drive the video unit and the engine control unit; and
a main control unit integrated into a single chip with the processor to transmit a print start command to the engine control unit.

7. (ORIGINAL) The image forming apparatus of claim 6, wherein the video unit comprises the processor.

8. (ORIGINAL) The image forming apparatus of claim 6, wherein the engine control unit is an application specific integrated circuit (ASIC), and comprises a memory to store state information about the engine mechanism.

9. (ORIGINAL) The image forming apparatus of claim 8, wherein the processor reads the state information stored in the memory to check a state of the engine mechanism, and transmits the image data to the engine control unit to perform the printing operation.

10. (CURRENTLY AMENDED) An image forming apparatus, comprising:
an engine to perform a printing operation according to image data;
a controller to control the engine to perform the printing operation;
a converter to convert received print data into the image data, the converter comprising a single processor to drive the converter and the controller; and
a bus to directly connect the controller with the processor; and
a main control unit integrated into a single chip with the processor to transmit a print start command to the engine control unit.

11. (ORIGINAL) The image forming apparatus of claim 10, wherein the processor is a microprocessor CPU.

12. (ORIGINAL) The image forming apparatus of claim 10, wherein the controller is

an application specific integrated circuit (ASIC).

13. (ORIGINAL) The image forming apparatus of claim 10, wherein the controller has a memory to store information on an operational state of the engine.

14. (CANCELLED)

15. (PREVIOUSLY PRESENTED) The image forming apparatus of claim 10, wherein the bus comprises a control bus to input and output a horizontal synchronization (HSYNC) signal, a page synchronization signal request signal and a page synchronization (PSYNC) signal.

16. (ORIGINAL) The image forming apparatus of claim 10 wherein the controller is integrated into a single chip together with the processor.

17. (CURRENTLY AMENDED) A method comprising:
generating bitmap data at a first control unit;
connecting the first control unit with a second control unit which controls a printing engine which controls a printing operation, the connecting comprising connecting with a system bus;
transmitting a print start command from a main control unit integrated into a single chip with a processor to the second control unit; and
driving the first and second control units with a single processor.

18. (ORIGINAL) The method of claim 17, further comprising:
generating print data at a computer; and
transmitting the print data to the first control unit, the bitmap data being generated in accordance with the transmitted print data.

19. (ORIGINAL) The method of claim 18, further comprising:
sending notification to the second control unit when the generating the bitmap data is complete;
driving the printing engine in response to the sending of the notification;
generating a horizontal sync (HSYNC) signal at the printing engine in response to the driving of the printing engine; and

transmitting the HSYNC signal from the second control unit to the first control unit.

20. (ORIGINAL) The method of claim 19, further comprising:

determining that an RPM of a motor of the printing engine has reached a predetermined value;

transmitting a page sync (PSYNC) request signal from the first control unit to the second control unit in response to the transmitting of the HSYNC signal and the determining of the RPM;

feeding a paper for printing when the second control unit receives the PSYNC request signal; and

transmitting a PSYNC signal from the second control unit to the first control unit when a sensor of the printing engine senses the fed paper.

21. (PREVIOUSLY PRESENTED) The image forming apparatus of claim 1, wherein

the engine control unit drives the engine mechanism in accordance with control by the processor.

22. (PREVIOUSLY PRESENTED) The image forming apparatus of claim 9, wherein

the transmitted image data is transmitted via the bus without processing by the bus.